

We Claim:

1. A print head unit for a drop on demand inkjet printer, including a face plate with an array of capillary channels each with an ejection nozzle and a controlled pulsing element, in which the print head body portion supports an automated maintenance device which comprises a shaped capping arm to abut the face plate so as to cover the ejection nozzles and supports a movable wiping element including a wiper blade to remove ink from the face plate after removal of the capping element and before commencement of a print run.

2. A print head unit as claimed in claim 1, in which the capping element is spring-mounted.

3. A print head unit as claimed in claim 1 or claim 2, in which the facing pad of the capping element that comes into contact with the face plate is formed of an elastomeric material which is resistant to the solvent employed in the ink.

4. A print head unit as claimed in claim 3, in which the portion of the capping element that comes into contact with the face plate is in the form of a facing pad which abuts against the face plate across all of the nozzles.

5. A print head unit as claimed in claim 3, in which the facing pad of the capping element that comes into contact with the face plate is in the form of a cap incorporating a continuous ridge around the portion of the face plate in which the nozzles are located.

6. A print head unit as claimed in any preceding claim, in which the capping element is mounted pivotally to the print head so that it can be swung into position against the face plate in the capping phase and swung away from the face plate into a retracted position for the printing phase.

7. A print head unit as claimed in any preceding claim, in which the capping element is motor-driven via a worm and worm wheel.

8. A print head unit as claimed in any preceding claim, in which the wiping action is effected in a downwards direction.

9. A print head unit as claimed in any preceding claim, in which the wiper blade comprises a resilient blade of elastomeric material which is resistant to the solvent.

10. A print head unit as claimed in any preceding claim, in which one or more absorbent pads are provided on or close to the print head to receive ink removed by the wiper blade.

11. A print head unit as claimed in any preceding claim, in which the path of travel of the wiper blade is to move from a retracted position beneath the face plate, upwards past the face plate without contacting it, moving into contact with the face plate above the nozzles, moving downwards across the nozzles while remaining in contact with the face plate and then contacting an absorbent pad before returning to the retracted position.

12. A print head unit as claimed in any preceding claim, in which the wiping element includes a frame to support the wiper blade.

13. A print head unit as claimed in claim 12, in which the frame comprises a triple-lever structure including a support lever pivotally mounted on the print head, a drive lever pivotally and eccentrically mounted on a drive wheel, and a carrier lever pivotally mounted at one end on the support lever and holding the wiper blade at the other end.

14. A print head unit as claimed in claim 13, in which the frame includes two such triple-lever structures, one either side of the print head and linked to each other across the print head by tie bars.

15. A print head unit as claimed in claim 14, in which the wiper blade is disposed on a tie bar which joins the ends of carrier levers.

5 16. A print head unit as claimed in any preceding claim, which includes separate drive motors for the capping and wiping functions.

10 17. A print head unit as claimed in any preceding claim, in which the range of movement of the respective elements is controlled by limit switches.

18. A print head unit as claimed in claim 16 and claim 17 in which the drive motors and associated switches are controlled by logic circuitry.

15 19. A printer incorporating a print head unit as claimed in any preceding claim.

20. A printer as claimed in claim 19, in combination with one or more microprocessors for control or monitoring purposes.